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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/535,379	04/04/2006	James Edward Delves	DPS-030805 PET-1011US	7200

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EXAMINER	
SNELTING, JONATHAN D	

ART UNIT	PAPER NUMBER
3652	

MAIL DATE	DELIVERY MODE
06/09/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/535,379	DELVES ET AL.	
	Examiner	Art Unit	
	Jonathan D. Snelting	3652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 March 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12 and 14-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10 and 14-32* is/are rejected.

7)☒ Claim(s) *11 and 12* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 29, 2010 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 2-5 and 19-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 2 recites "the fluidizing apparatus comprises a flow chamber having a fluid inlet and a fluid outlet, [and] means for establishing a swirling or coanda flow in a fluid passing out of the fluid outlet." From the specification, it appears that the "means for establishing a swirling or coanda flow" corresponds to the flow chamber itself (see page 6, line 34-page 7, line 1). Thus, it appears that the applicant is claiming the flow chamber twice—once explicitly, and once again using "means for" language. Claims 3-5 are dependent on indefinite claim 2.

5. The preamble of claim 19 recites "A method..., the method:" which does not recite a transitional phrase such as "comprising" or "consisting of." For examination purposes, claim 19 will be interpreted using the open-ended transitional phrase "comprising." See MPEP 2111.03. Claims 20-32 are dependent on indefinite claim 19.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 8, 9, 19-21, and 26-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Mims (U.S. Patent No. 4,707,277).

8. Consider claim 1. Mims teaches an apparatus for transferring settled and suspended solids from an open vessel (10) into a closed vessel (28), where the closed vessel is not open to the atmosphere, the apparatus comprising a suction line (100) which extends from the closed vessel to the open vessel via drive means (92) and a solids feed line (26) which extends from a solids outlet (proximate 38) in the open vessel to a solids inlet (76) in the closed vessel, a fluidising apparatus (22) being provided to fluidise the solids in the open vessel.

9. Consider claim 8. Mims teaches that the closed vessel comprises a feed vessel (proximate 80) which feeds suspended solids into a transport vessel (102) containing a fluidising unit (110).

10. Consider claim 9. Mims teaches that the transport vessel comprises a solids outlet (32) through which suspended solids are discharged at a controlled rate along a slurry discharge line.

11. Consider claim 19. Mims teaches a method for transferring settled and suspended solids from an open vessel (10) into a closed vessel (28), where the closed vessel is not open to the atmosphere, the method comprising: drawing fluid from the closed vessel into the open vessel (via 100); operating a fluidising unit (22) with the said fluid (fluid in system of 10, 26, 28, and 100) to fluidise the settled and suspended solids; and drawing the fluid and fluidised solids from the open vessel into the closed vessel (via 26).

12. Consider claim 20. Mims teaches that the fluid is drawn from the closed vessel to the open vessel by means of a pump or compressor (92).

13. Consider claim 21. Mims teaches that the fluid is recirculated between the closed vessel and the open vessel, so that no additional fluid is added to or removed from the system (via 88, 94, 90, 96, and 98, see column 8, lines 8-20 and fig. 3).

14. Consider claim 26. Mims teaches that no fluid other than the fluid in the open vessel (28) is used to fluidise and transport the settled and suspended solids from the open vessel to the closed vessel.

15. Consider claim 27. Mims teaches that the only fluid used to transport solids from the closed vessel to a discharge vessel (102) is the said fluid (fluid in system of 10, 26, 28, and 100).

16. Consider claims 28-32. It is considered that Mims's method is capable of operating below sea level to remove material for transport to shore, capable of removing material from the seabed for dredging or mining, capable of removing radioactive waste solids, capable of conveying material from the base of a mine shaft to the surface, and capable of conveying a material directly into the suction line of a slurry pump.

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

18. Claims 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mims (U.S. Patent No. 4,707,277) in view of Evans (U.S. Patent No. 2,010,538).

19. Consider claims 2-5. Mims does not explicitly teach that the fluidising apparatus comprises a flow chamber, a means for establishing a swirling or coanda flow, and a transport outlet. Evans teaches a fluidising apparatus comprising a flow chamber (proximate 73 in fig. 25) having a fluid inlet (74) and a fluid outlet (72), means (72 and 73) for establishing a swirling or coanda flow in a fluid passing out of the fluid outlet, and a transport outlet (63 and 56) for transporting fluidised material away from the flow chamber. Evans's transport outlet is situated externally of the flow chamber, directly above the flow chamber, and close to the flow chamber (see figs. 24 and 25). It would have been obvious to a person having ordinary skill in the art to modify Mims's fluidising

apparatus with Evans's fluidising apparatus in order to reduce the number of moving parts located under water in order to improve reliability and maintenance.

20. Claims 6, 7, 10, 14-17, and 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mims (U.S. Patent No. 4,707,277) in view of Young (U.S. Patent No. 5,098,667).

21. Consider claims 6 and 7. Mims does not explicitly teach a flow meter. Young teaches a flow meter (58, 56) for controlling the rate at which solids are transferred from a first vessel (20) into a second vessel ("TO REACTOR," see fig. 1). Young's flow meter measures the rate of flow of suspended solids (see column 5, lines 40-44). It would have been obvious to a person having ordinary skill in the art to modify Mims's apparatus with Young's flow meter in order to measure and control the flow of slurry from the open vessel to the closed vessel.

22. Consider claim 10. Mims does not explicitly teach means for measuring the flow rate of slurry discharge. Young teaches a means (flow meter 58, 56) on a slurry discharge line (60) for measuring the flow rate of slurry discharge ("TO REACTOR," see fig. 1). It would have been obvious to a person having ordinary skill in the art to modify Mims's slurry discharge line with Young's flow meter in order to measure and control the flow of slurry from the slurry discharge line.

23. Consider claims 14-17. Mims does not explicitly teach valves. Young teaches a valve (78), computer (100), and flow meter (58, 56) for controlling flow rate of suspended solids. Young's flow meter 58, 56, in conjunction with gamma density gauge 74 and computer 100, is a mass flow meter as described in column 2, lines 7-12. It

would have been obvious to a person having ordinary skill in the art to modify Mims's apparatus with Young's valve, computer, and flow meter in order to control the flow of slurry. The valve, computer, and flow meter of Mims in view of Young are capable of performing the recited method steps (functional limitations) in claims 14-16. Please see MPEP 2106 (IV)(B) and *R.A.C.C. Indus. v. Stun-Tech, Inc.*, 178 F.3d 1309 (Fed. Cir. 1998). Mims in view of Young does not explicitly teach valves and flow meters. It would have been obvious to a person having ordinary skill in the art to duplicate the valve and flow meter of Mims in view of Young, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. Please see *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960).

24. Consider claims 22-24. Mims teaches discharging fluid and fluidised solids from the closed vessel into a discharge vessel (102), but does not explicitly teach controlling the rate of discharge. Young teaches controlling (via 58, 56, 100, and 78) the rate of discharge of fluid and fluidised solids from a first vessel (20) into a second vessel ("TO REACTOR," see fig. 1) by controlling a valve (78) on a pipe (60) connecting the vessels so that a desired concentration of solids is discharged at a constant rate (see column 5, lines 28-37). It would have been obvious to a person having ordinary skill in the art to modify Mims's method with Young's step of controlling the rate of discharge of solids in order to accurately convey a predetermined quantity of solids to a discharge vessel.

25. Consider claim 25. Mims teaches fluidising the solids in the discharge vessel (via 110).

26. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mims (U.S. Patent No. 4,707,277) in view of Young (U.S. Patent No. 5,098,667) as applied to claim 17, and further in view of Gomi (U.S. Patent No. 5,796,012).

27. Consider claim 18. Mims in view of Young teaches flow meters, but does not explicitly state that the flow meters are coriolis or ultrasonic meters. Gomi teaches a coriolis flow meter. It would have been obvious to a person having ordinary skill in the art to modify the flow meters of Mims in view of Young with Gomi's coriolis flow meter in order to correct instrumental errors caused by a change in density and temperature of the fluid (see Gomi, abstract, lines 1-3).

Allowable Subject Matter

28. Claims 11 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

29. Applicant's arguments with respect to claims 1-10 and 14-32 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan D. Snelting whose telephone number is 571-270-7015. The examiner can normally be reached on Monday to Friday 8:00 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saul Rodriguez can be reached on 571-272-7097. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. D. S./
Examiner, Art Unit 3652

/Saúl J. Rodríguez/
Supervisory Patent Examiner, Art Unit 3652